FIG. 1

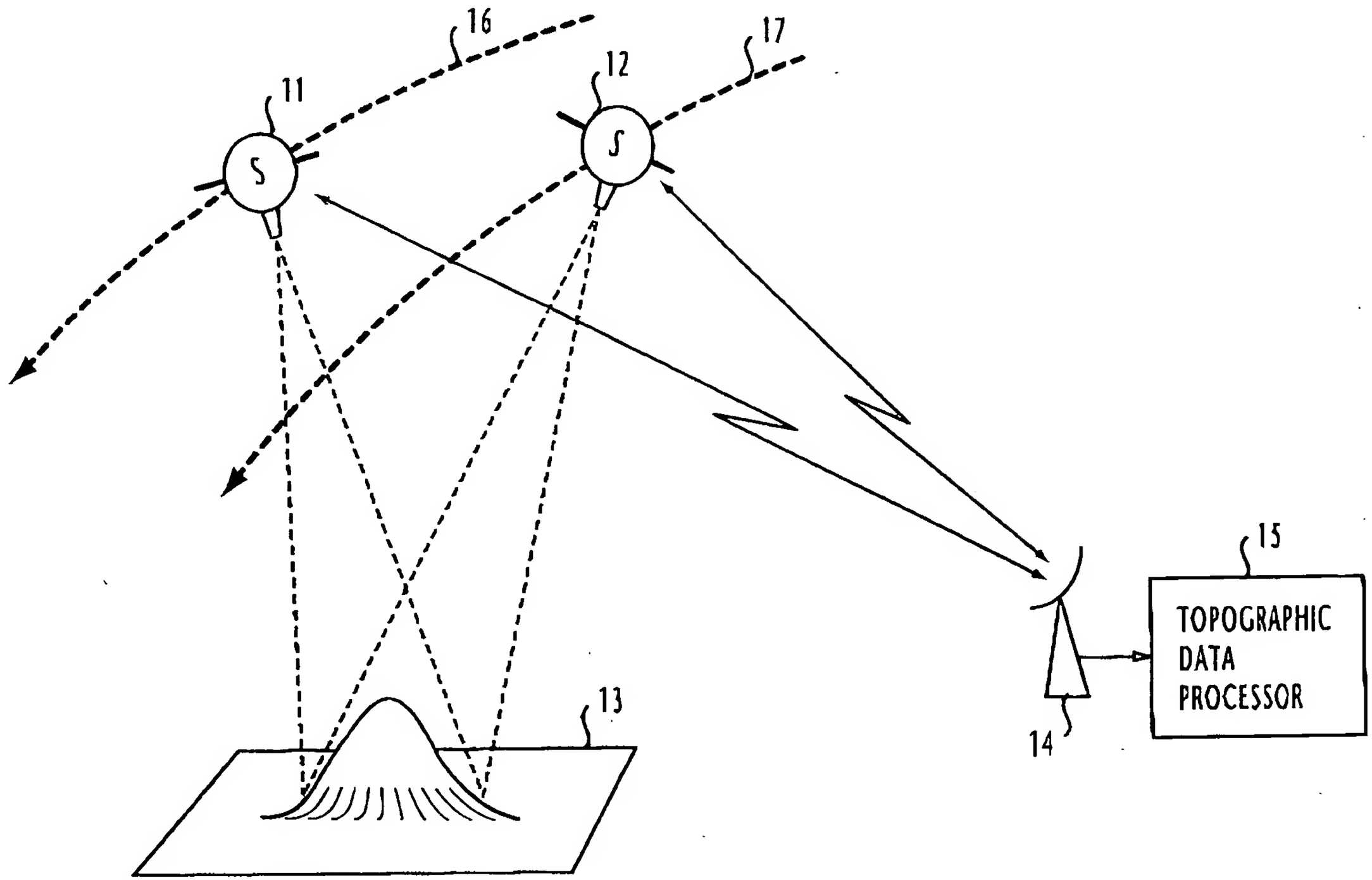


FIG. 2

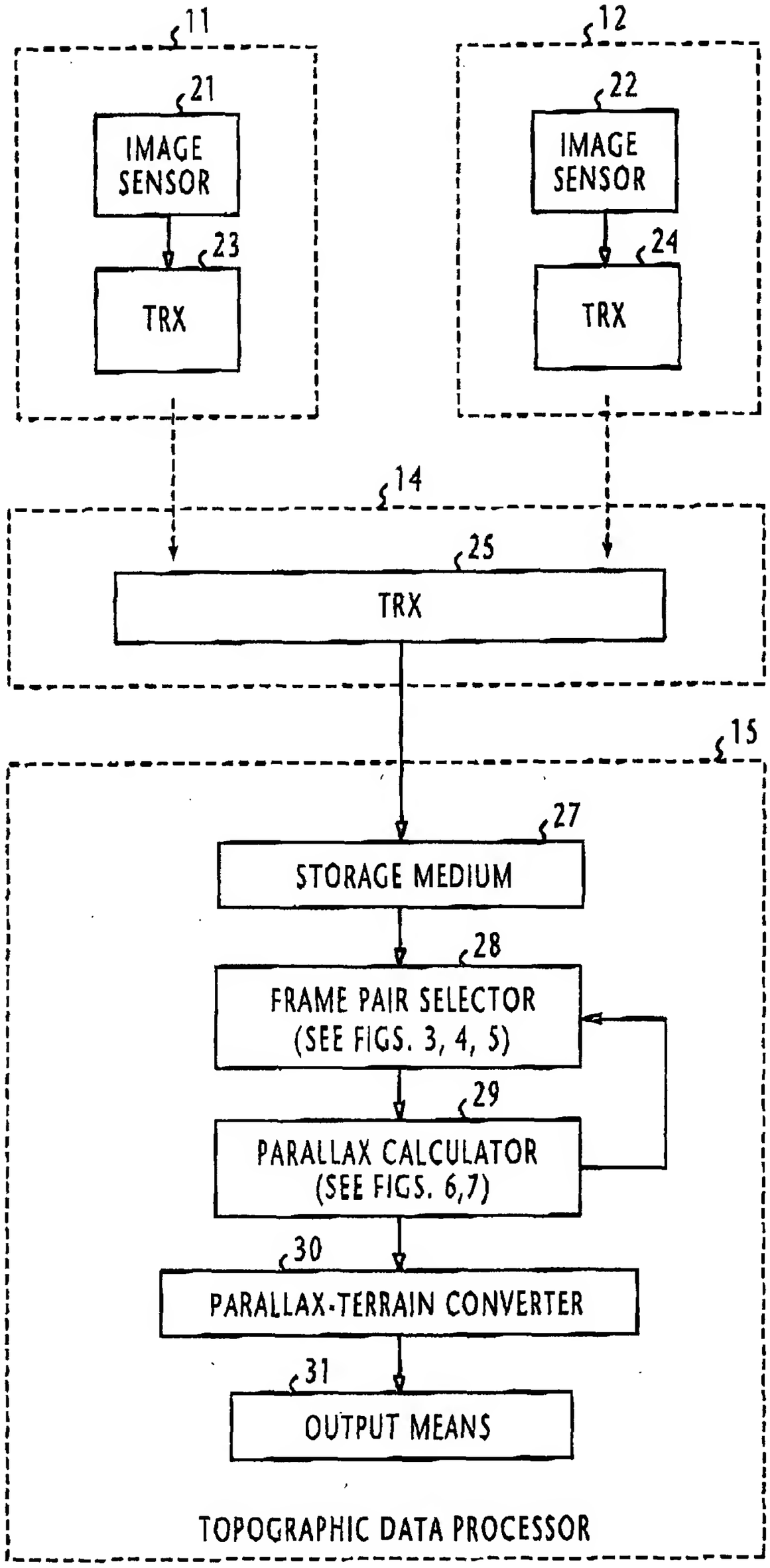

11
12
21
IMAGE SENSOR
22
IMAGE SENSOR
23
TRX
24
TRX
14
25
TRX
15
27
STORAGE MEDIUM
28
FRAME PAIR SELECTOR (SEE FIGS. 3, 4, 5)
29
PARALLAX CALCULATOR (SEE FIGS. 6,7)
30
PARALLAX-TERRAIN CONVERTER
31
OUTPUT MEANS
TOPOGRAPHIC DATA PROCESSOR

FIG. 3

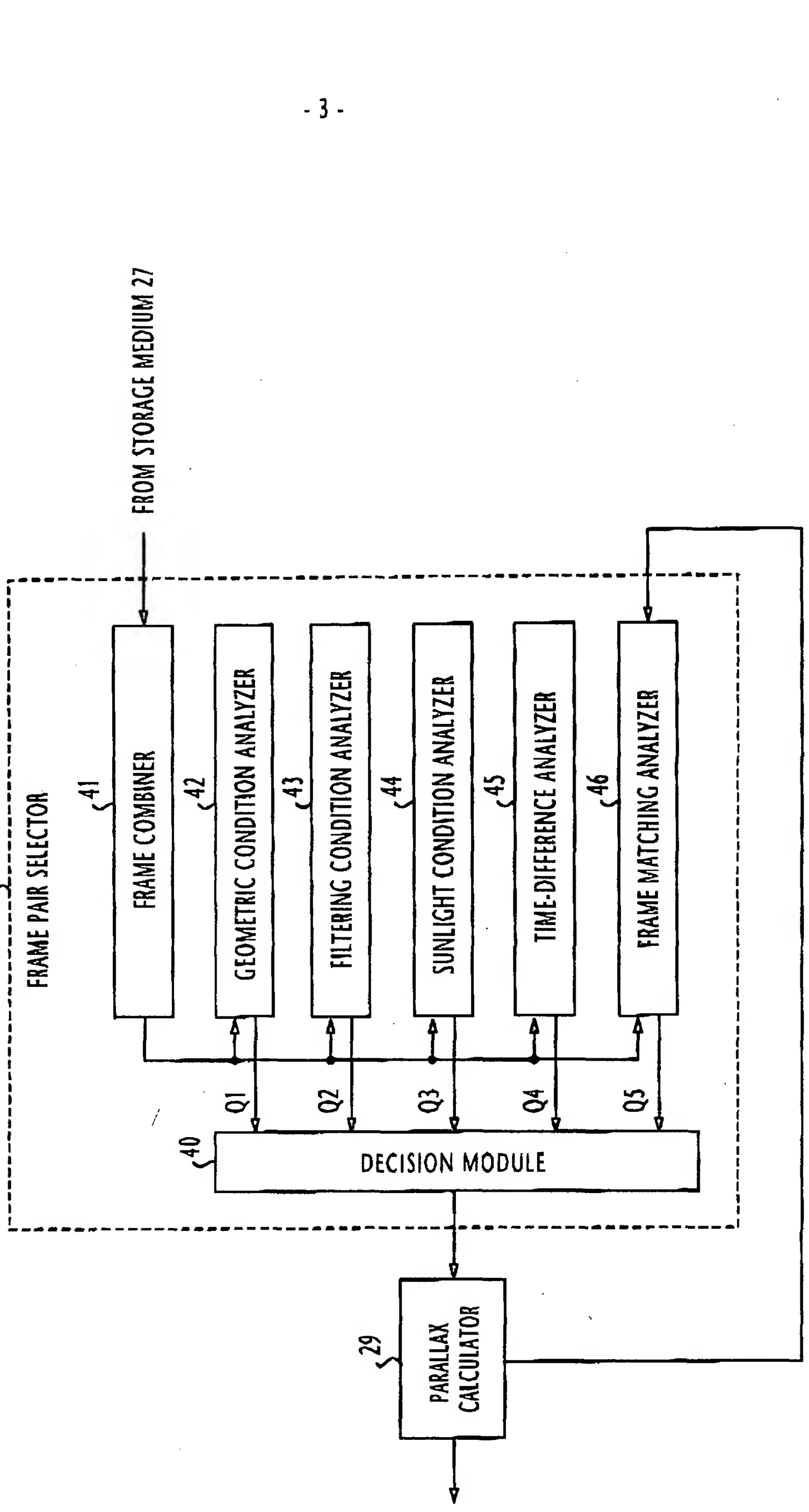

FROM STORAGE MEDIUM 27
28
FRAME PAIR SELECTOR
41
FRAME COMBINER
42
GEOMETRIC CONDITION ANALYZER
43
FILTERING CONDITION ANALYZER
44
SUNLIGHT CONDITION ANALYZER
45
TIME-DIFFERENCE ANALYZER
46
FRAME MATCHING ANALYZER
Q1
Q2
Q3
Q4
Q5
40
DECISION MODULE
29
PARALLAX CALCULATOR

FIG. 4

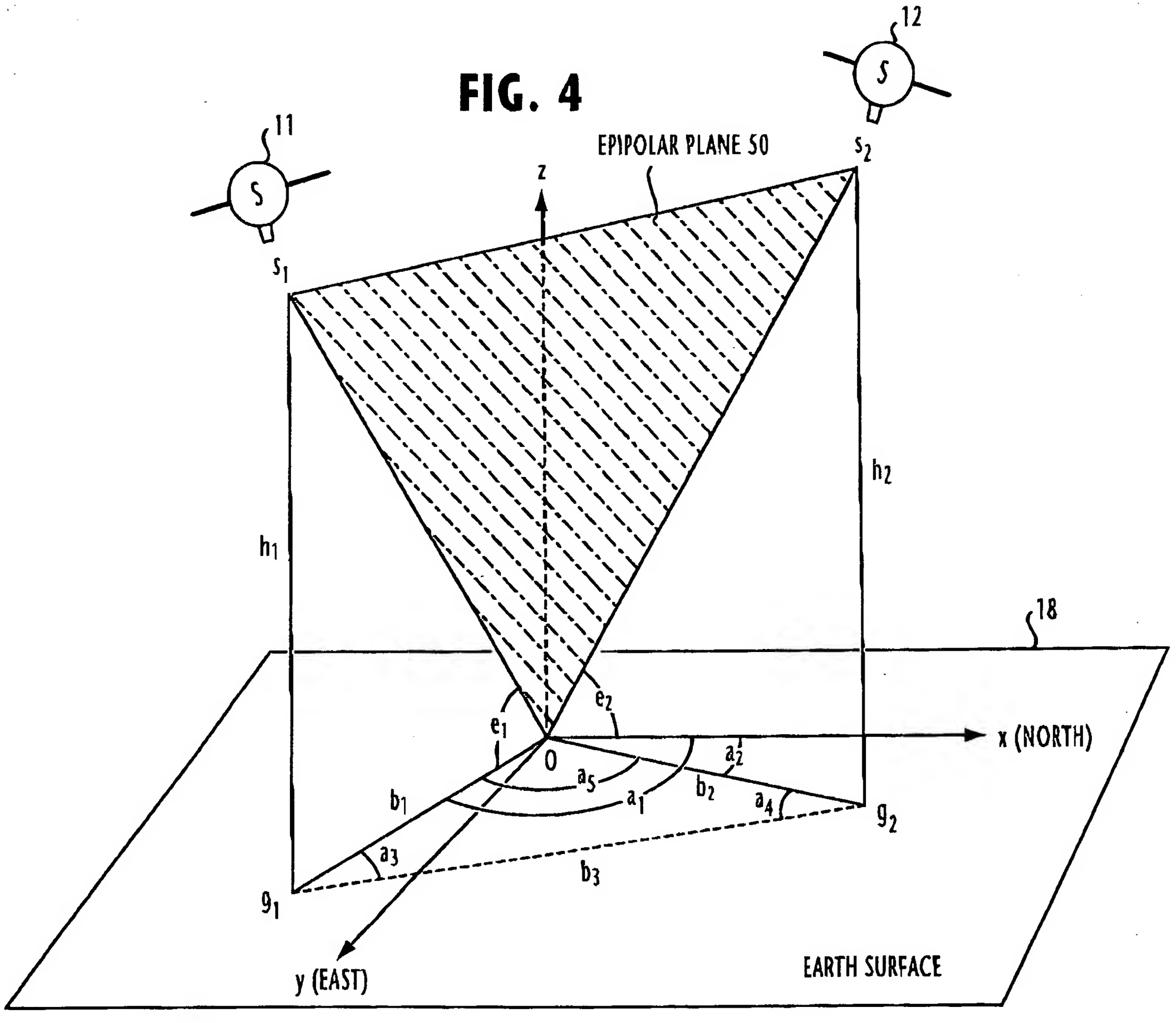

12
S
11
S
EPIPOLAR PLANE 50
S_2
z
S_1
h_2
h_1
18
e_2
e_1
x (NORTH)
O
a_2
a_5
a_1
b_2
a_4
b_1
g_2
a_3
b_3
g_1
y (EAST)
EARTH SURFACE

FIG. 5

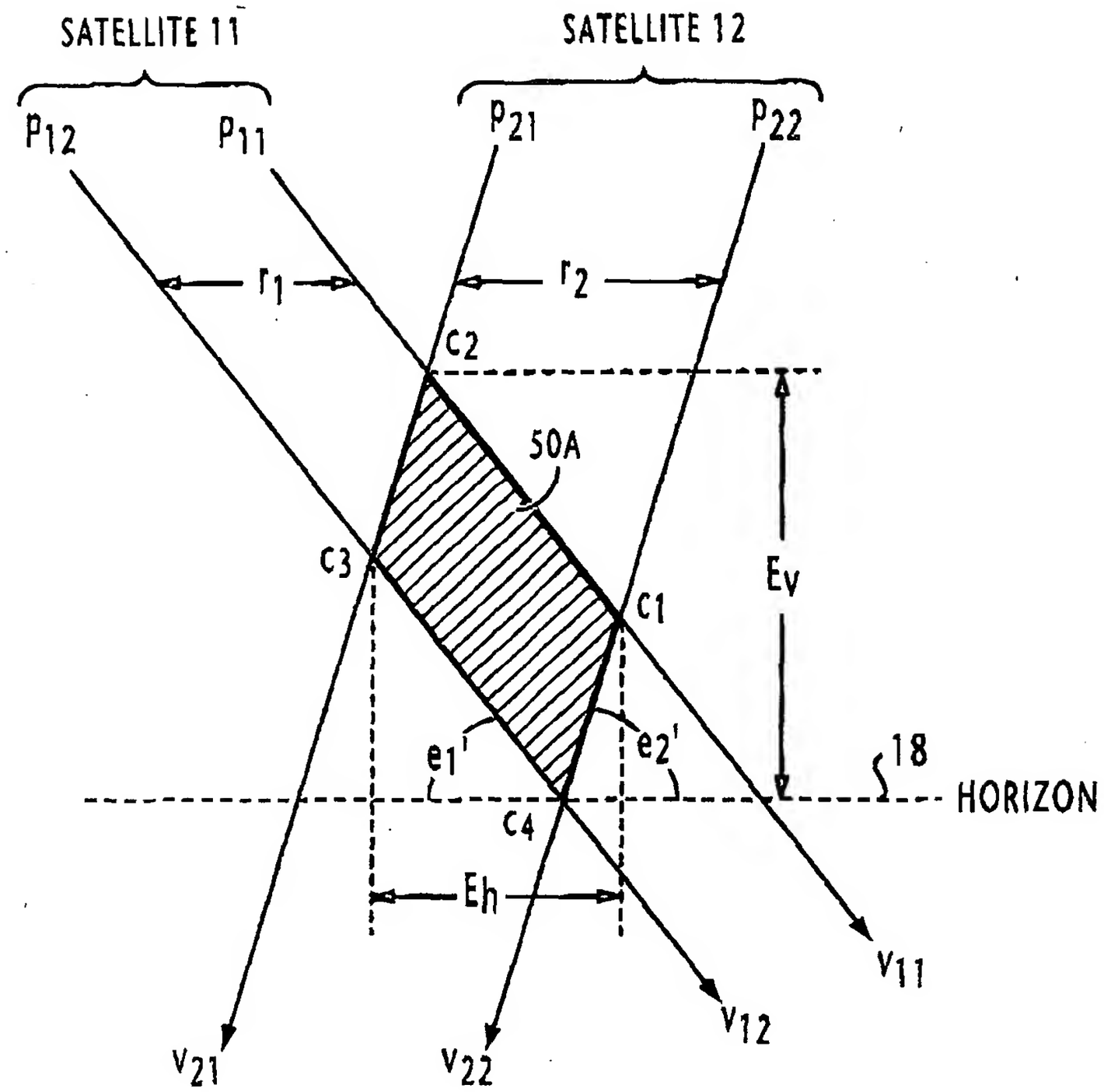
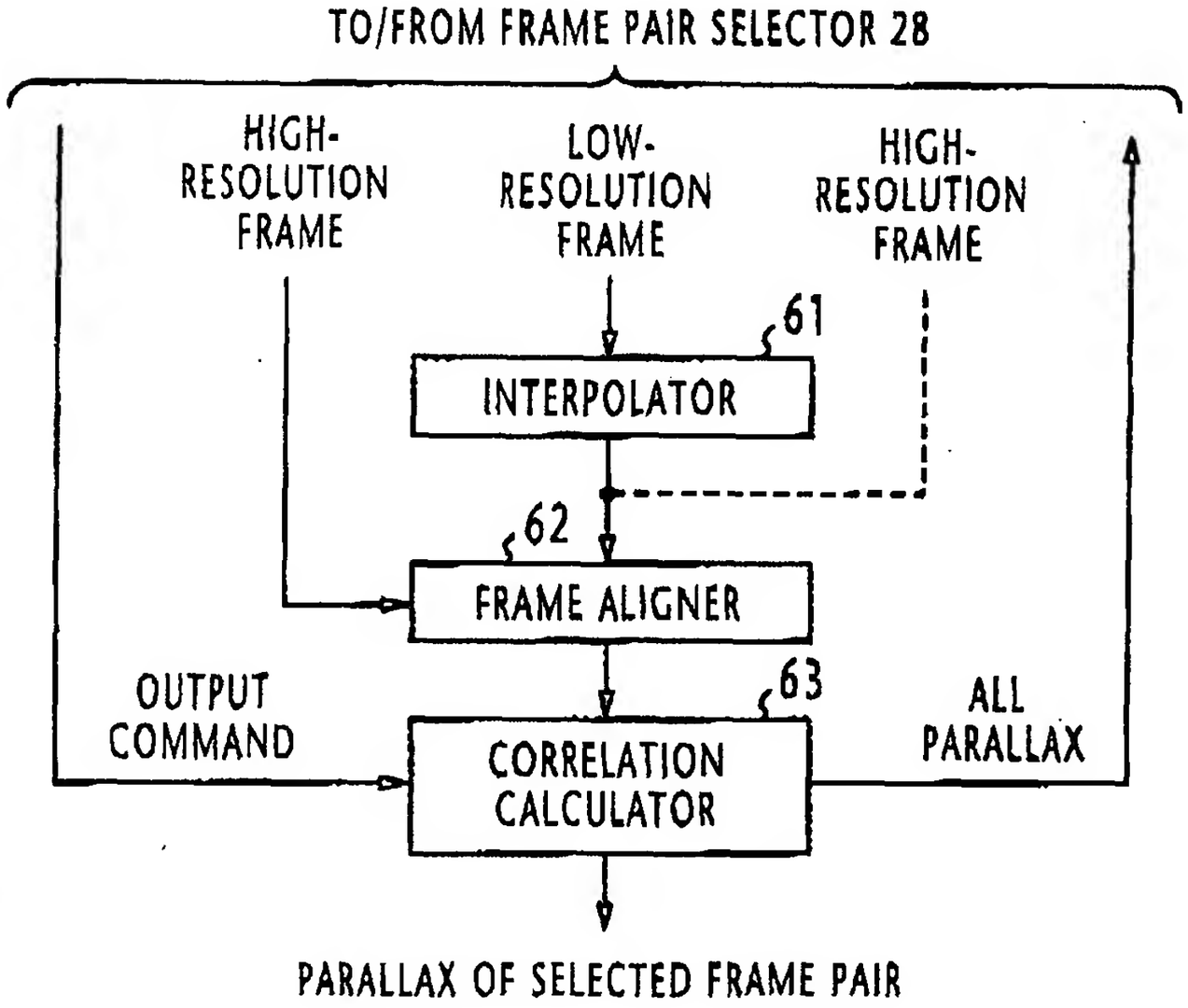
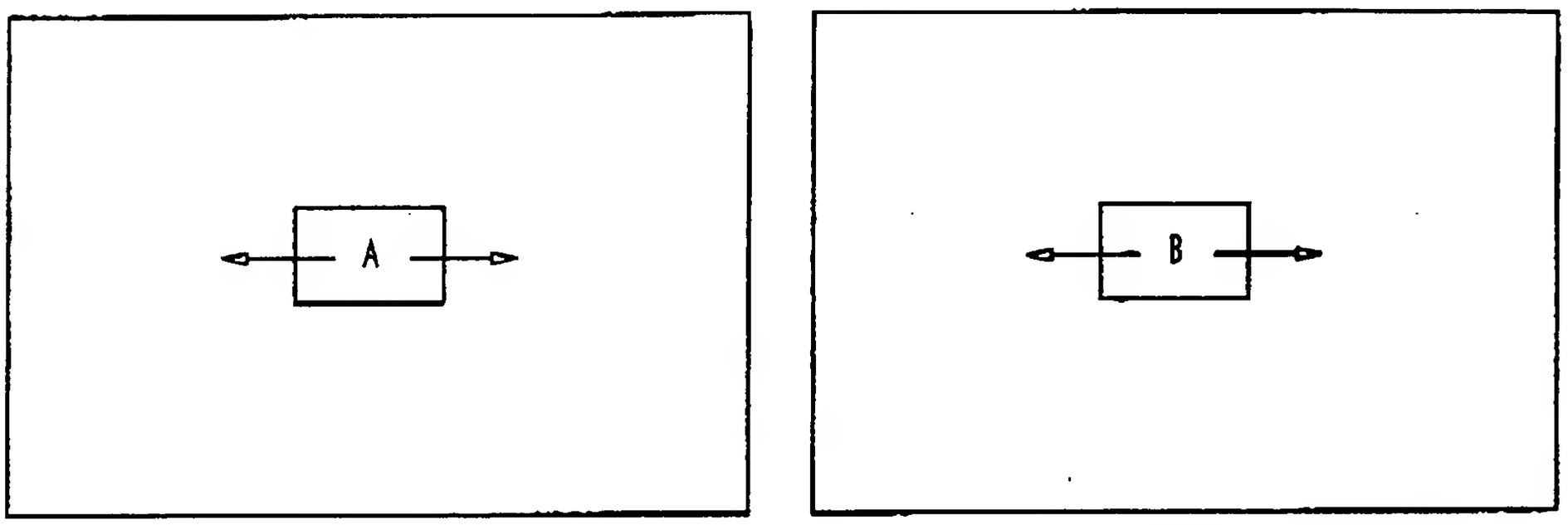


FIG. 6



PARALLAX CALCULATOR 29

FIG. 7



FRAME 1 FRAME 2

FIG. 8

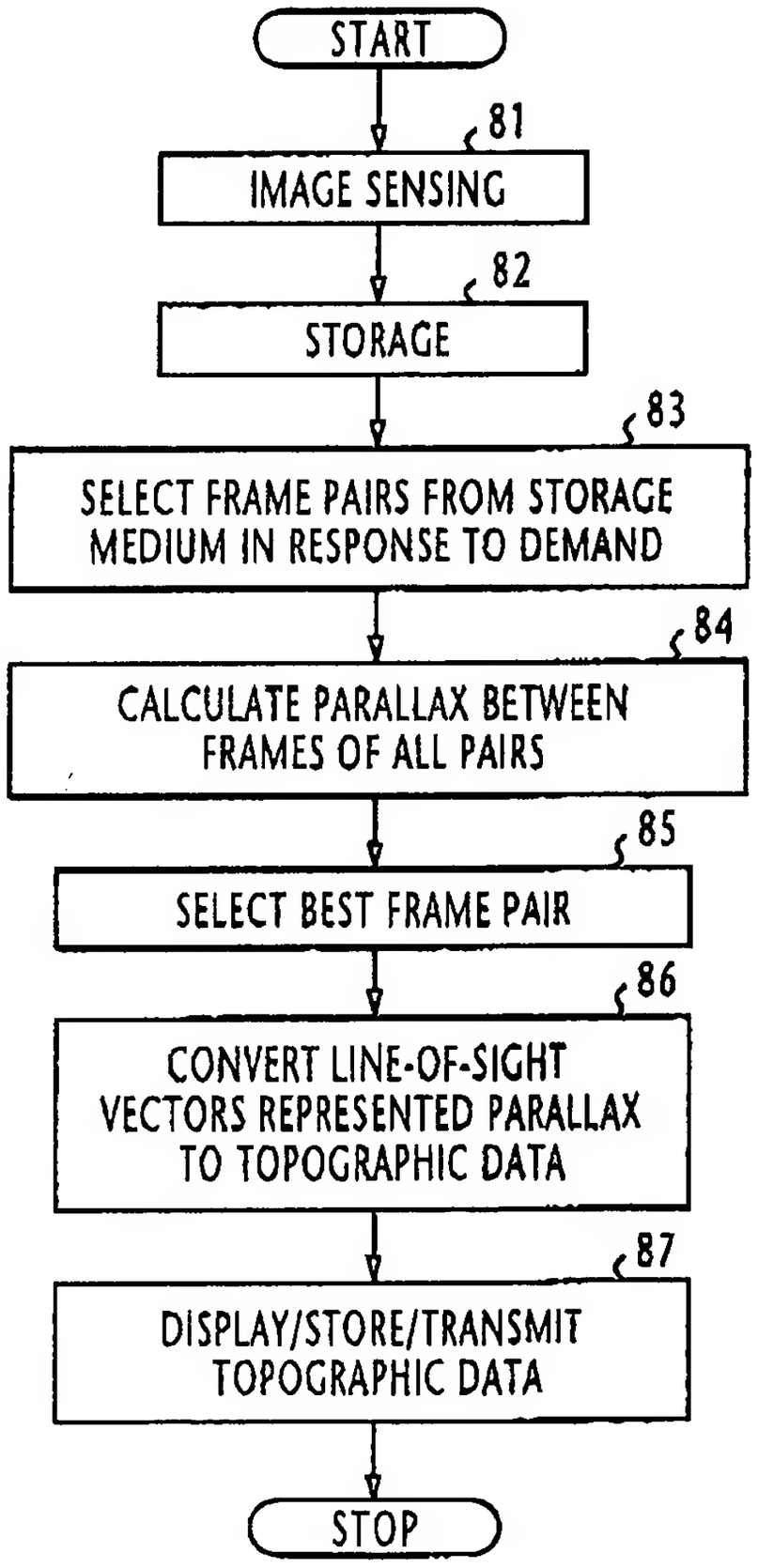


FIG. 9

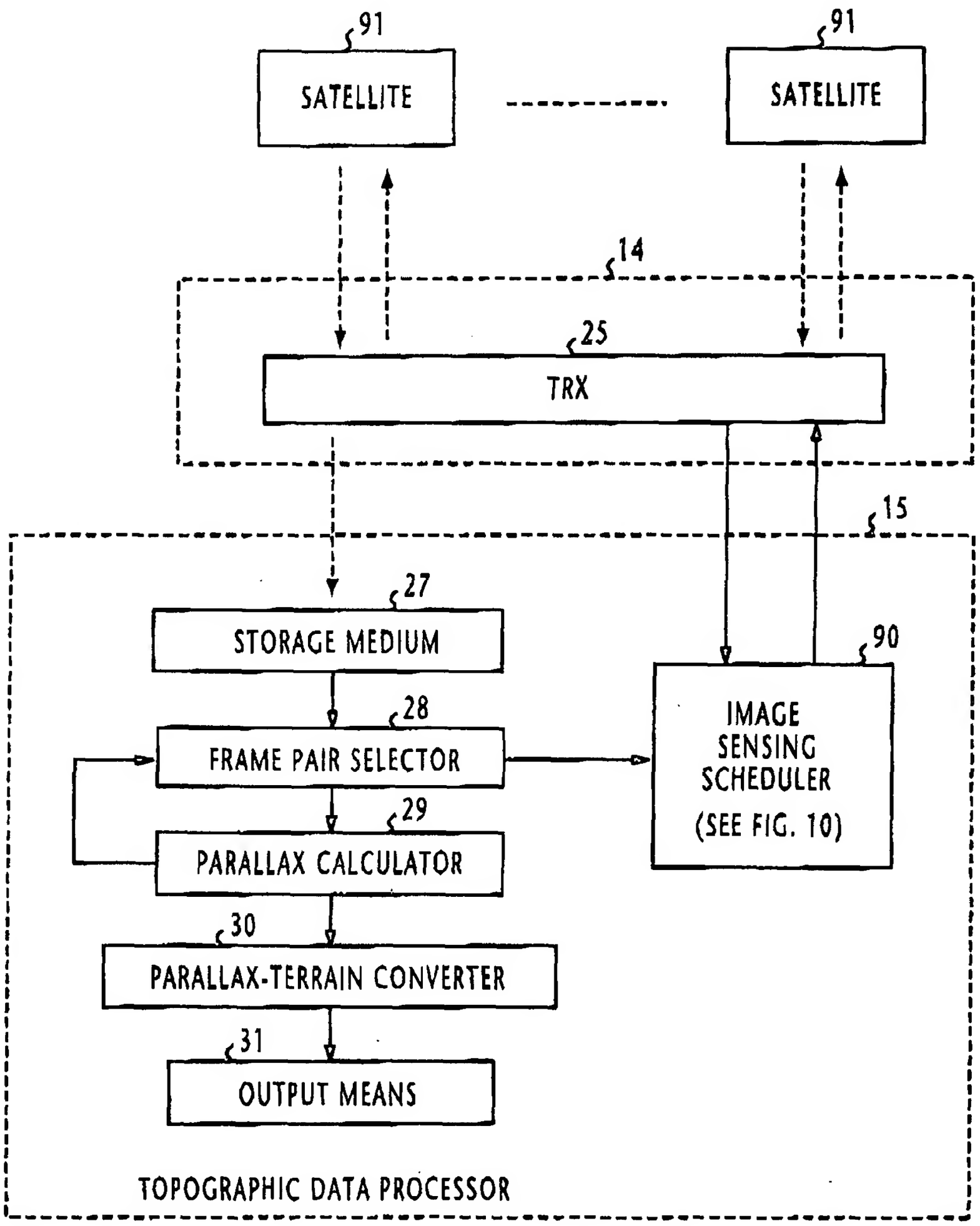
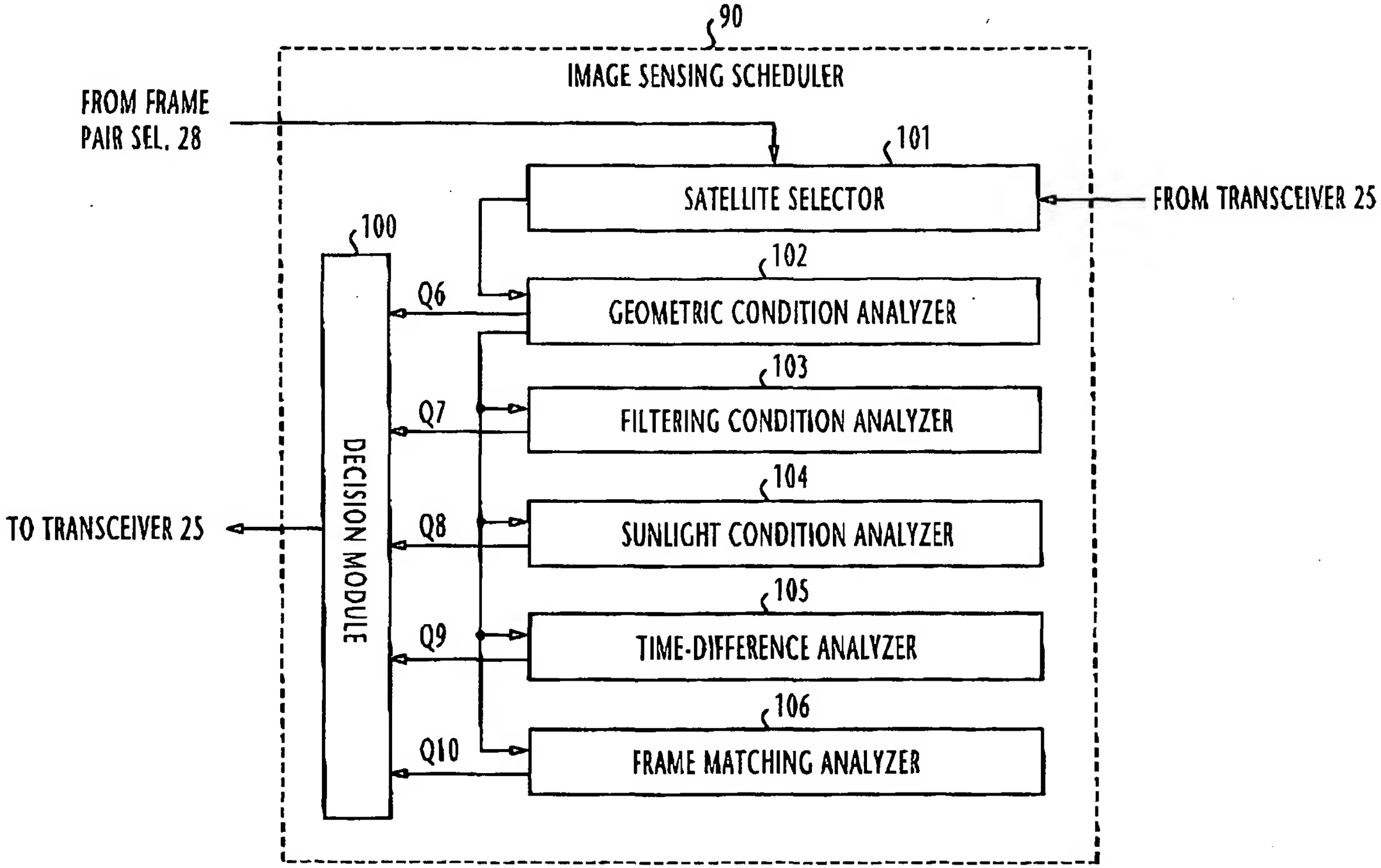

91
SATELLITE
91
SATELLITE
14
25
TRX
15
27
STORAGE MEDIUM
28
FRAME PAIR SELECTOR
29
PARALLAX CALCULATOR
30
PARALLAX-TERRAIN CONVERTER
31
OUTPUT MEANS
90
IMAGE SENSING SCHEDULER
(SEE FIG. 10)
TOPOGRAPHIC DATA PROCESSOR

FIG. 10


90
IMAGE SENSING SCHEDULER
FROM FRAME PAIR SEL. 28
101
SATELLITE SELECTOR
FROM TRANSCEIVER 25
100
102
Q6
GEOMETRIC CONDITION ANALYZER
103
Q7
FILTERING CONDITION ANALYZER
104
TO TRANSCEIVER 25
Q8
SUNLIGHT CONDITION ANALYZER
105
Q9
TIME-DIFFERENCE ANALYZER
106
Q10
FRAME MATCHING ANALYZER
DECISION MODULE

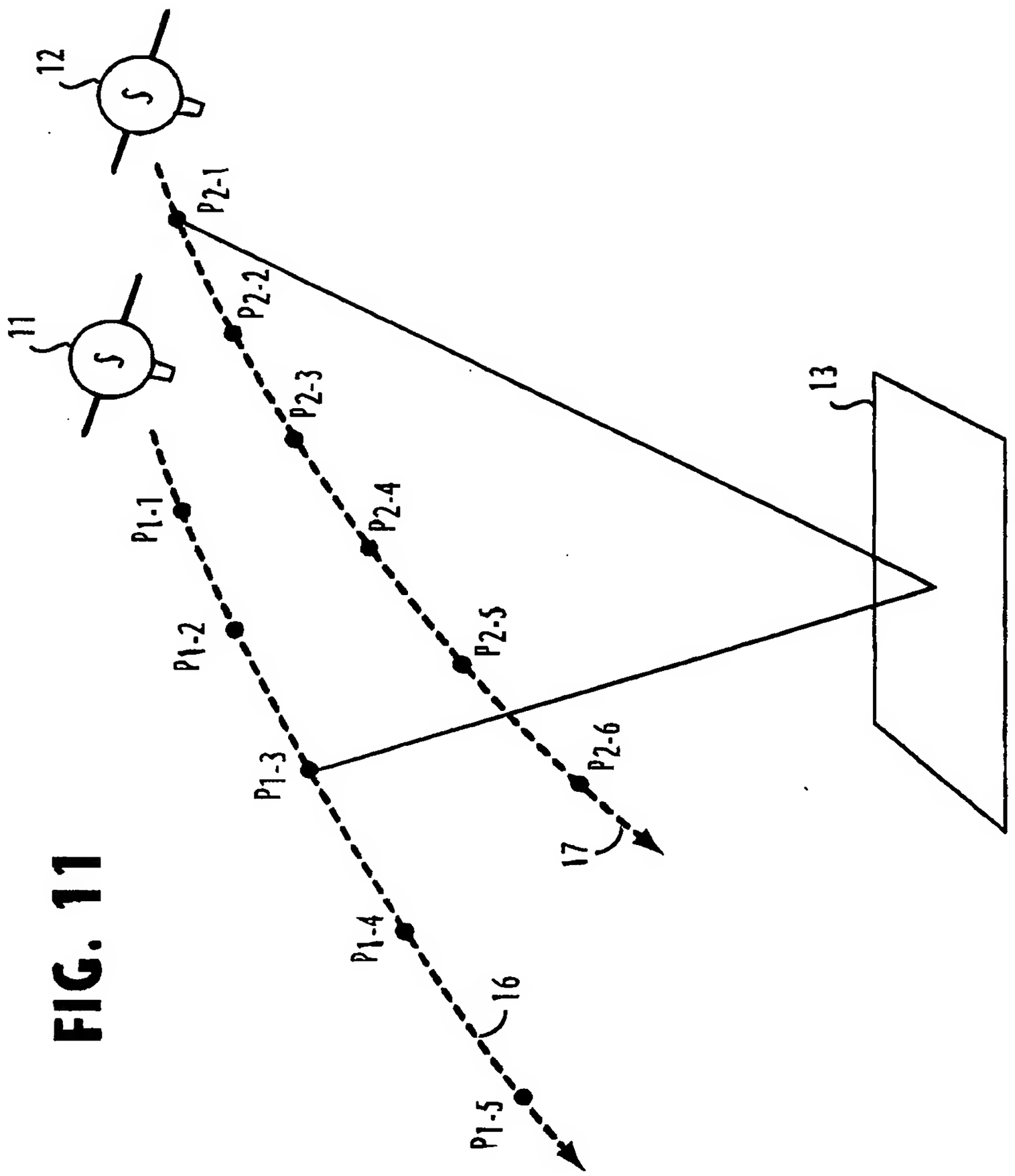
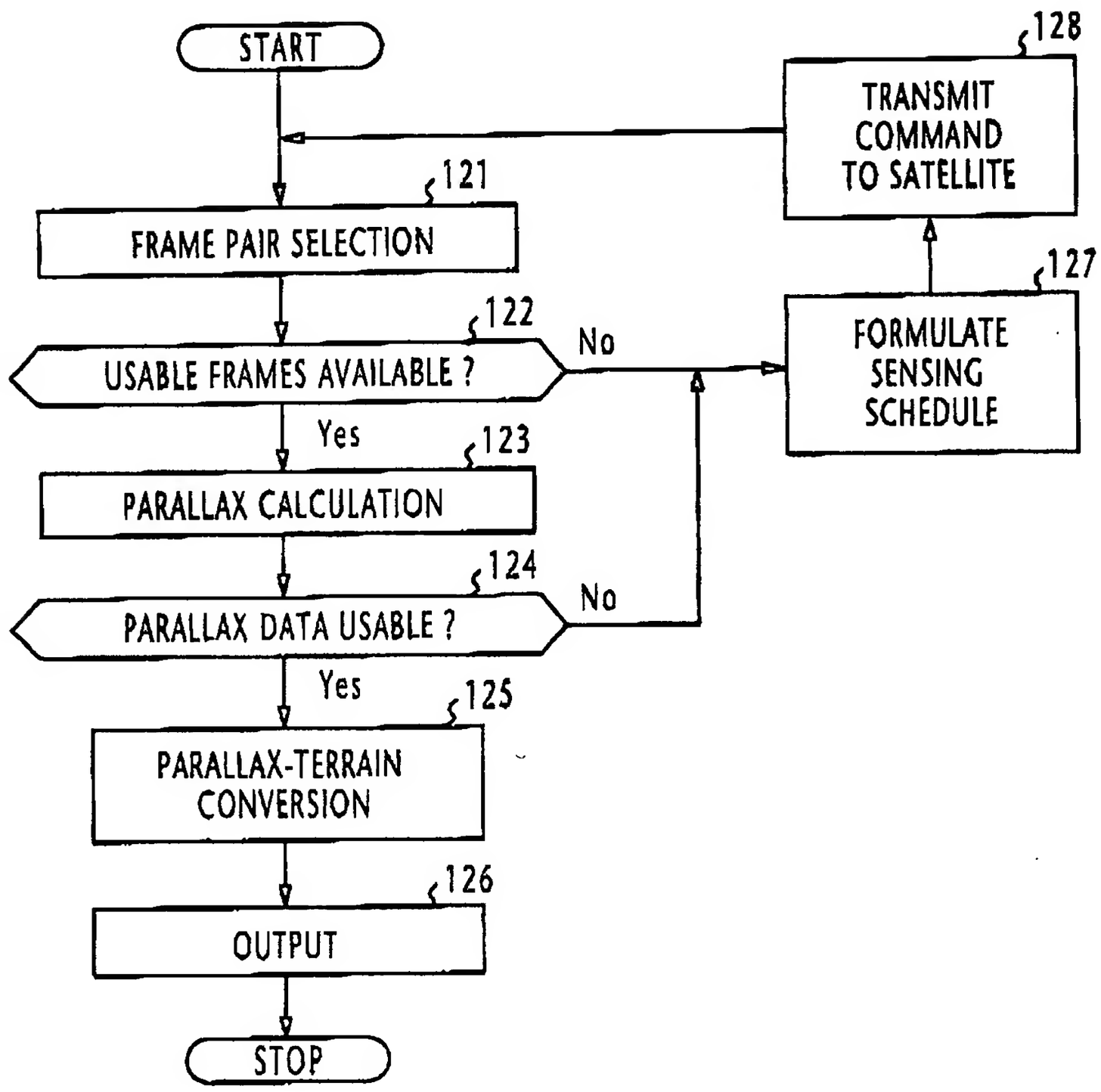


FIG. 11

FIG. 12


START
121
FRAME PAIR SELECTION
122
USABLE FRAMES AVAILABLE ?
No
Yes
123
PARALLAX CALCULATION
124
PARALLAX DATA USABLE ?
No
Yes
125
PARALLAX-TERRAIN CONVERSION
126
OUTPUT
STOP
127
FORMULATE SENSING SCHEDULE
128
TRANSMIT COMMAND TO SATELLITE